2.7 In-Service Management Revised 4/2019

Activity during in-service management supports execution of the FAA mission of providing air traffic control and other services. This entails operating, maintaining, securing, and sustaining systems, products, services, and facilities in real time to provide the level of service required by users and customers. It also entails periodic monitoring and evaluation of fielded products and services, and feedback of performance data into service and investment analysis as the basis for revalidating the need to sustain deployed assets or taking other action to improve service delivery.

Service organizations are responsible and accountable for managing service delivery within their area of responsibility throughout in-service management. They bring together the multiple engineering, logistics, and other management specialists necessary to operate and sustain fielded systems, services, products, and facilities. This includes managing resources within specific geographic areas, and may involve emergency sustainment actions in response to natural disasters or other unanticipated events.

Service organizations have flexibility to sustain and enhance fielded capability. They may implement pre-planned product improvements or block upgrades as stipulated at the investment decision, and may use sustainment resources to upgrade components of fielded products as needed (e.g., printers or processors).

In-service management planning documents focus on actions and activities that support continued operation and maintenance of deployed assets. The documents clearly define in-service management activities such as configuration management, preventive and corrective maintenance, training, infrastructure support and logistics support, along with planned activities to support post implementation reviews and operational analyses.

Service organizations evaluate the safety, efficiency, and effectiveness of operational assets throughout in-service management as a basis for improving service delivery over time. This process begins with a post implementation review at one or more early operational sites to determine whether a new investment program is achieving its performance and benefit targets and whether it is meeting the service needs of customers. The primary objective is useful information on how best to eliminate flaws and optimize performance and benefits before deployment at additional sites. This evaluation process continues throughout in-service management with the periodic evaluation of operational assets to determine whether they are continuing to contribute to agency safety, performance, and cost goals or whether they should be modernized, replaced, or removed from service. These operational analyses are the basis for out- year planning in the service organization business plan, which integrates ongoing and planned investment activity with resources for the operation and sustainment of fielded assets over their service life. The overarching goal is the continued best use of agency resources to achieve FAA strategic and performance goals. Click here for links to post implementation review and operational analysis policy and guidance.

When a fielded capability is projected to be unable to satisfy service demand or when another solution offers improved safety, lower cost, or higher performance, the service organization initiates action to enter the service analysis process leading to a new investment decision. The key is to look far enough into the future so there is enough time to approve and implement a

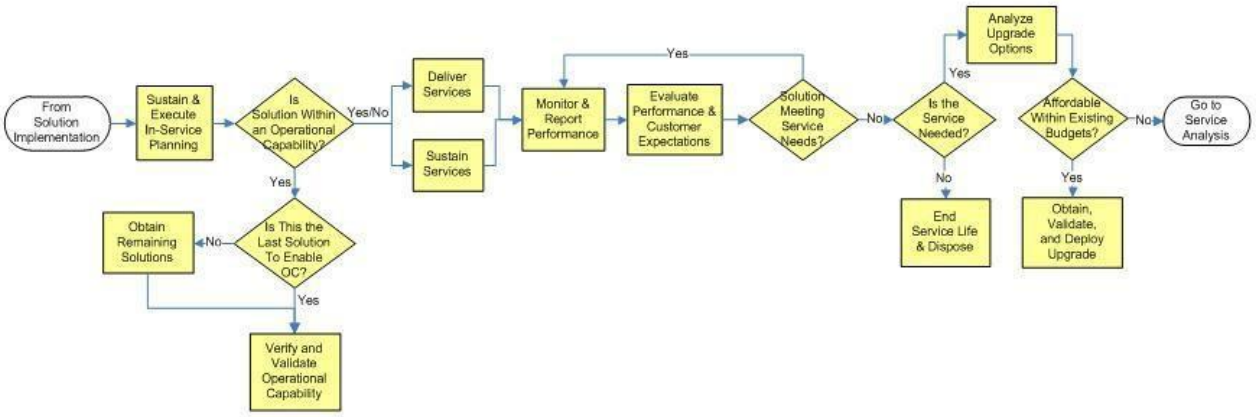
solution before the existing capability fails or becomes obsolete.

Service organizations must remove and dispose of fielded assets and services when they are no longer needed. This includes restoration of sites where obsolete products or services were deployed, disposal of government property, recovery of precious metals, and cannibalization of useful assets. The cost of removal and restoration is included in the acquisition program baseline or execution plan of the replacement program. If there is no replacement program, the cost must be otherwise factored into the service-area operating plan.

2.7.1 What Must Be Done Revised 4/2013

Figure 2.7.1-1 portrays the activities undertaken during in-service management. They are organized to deliver, sustain, and evaluate operational assets, and to take corrective action when they are projected to be unable to satisfy the service needs of users and customers or when they are becoming unsupportable or obsolete. The work flow includes actions to verify and validate achievement of projected benefits from an operational capability resulting from completion and integration of multiple investment increments.

Figure 2.7.1-1 Key Activities of In-Service Management



Sustain and Execute In-Service Planning. Service organizations review and update in-service planning documents as needed. This includes updating the OMB Major IT Business Case each year for designated programs. Annual updates reflect program changes and move the budget submission forward one year. The OMB Major IT Business Case must continue to achieve a passing score from the Office of Management and Budget.

- **Is Solution Within an Operational Capability?** When a recently deployed solution is not an increment necessary to achieve a complex operational capability, it is operated and sustained during in-service management as a stand-alone capability. When it is part of an operational capability, the agency validates that the projected benefits of the operational capability are being achieved once all supporting investment increments are in service.
- **Is This the Last Solution to Enable an Operational Capability?** If the recently deployed solution is the last investment increment necessary to implement an operational capability, a post implementation review is planned and executed to determine whether

the performance and benefits projected for the operational capability are being achieved and to identify what corrective action is needed when they are not.

- **Obtain Remaining Solutions.** All investment increments necessary to achieve the operational capability are obtained and deployed before verifying and validating that the performance and benefits of the operational capability are being realized.
- **Verify and Validate Operational Capability.** When the last investment increment of an operational capability is deployed and approved for operational service, the capture team oversees the integration of investment elements necessary to achieve the operational capability and verifies achievement of operational and performance benefits in the operational capability business case. Typically, a post implementation review will be planned and executed for this purpose. Results are presented to the NextGen Management Board, which determines whether performance of the operational capability meets agency expectations or whether further action is necessary.
- **Deliver Services.** The operational workforce provides air traffic control and other business services using infrastructure, procedures, and other assets as assigned and funded. This includes all safety-related quality assurance actions such as flight inspection, aircraft certification, establishing safety standards for operations, monitoring safety performance, issuing and maintaining certificates and licenses, and developing and revalidating procedures such as approach and landing procedures. Emergency sustainment actions are planned and executed whenever required. During emergencies, highest priority services are sustained even if performance goals for lower priority services cannot be met. In addition, physical, personnel, and information security is maintained at all FAA facilities. This includes environmental threat and facility assessment and accreditation in accordance with FAA internal security planning.
- **Sustain Services.** A variety of actions are undertaken by the FAA workforce during in-service management to ensure operational assets remain in good working order. These include:
  - Corrective and preventive maintenance, supply support, second-level engineering, depot-level repair, modification of hardware and software to improve performance, test and support equipment, and transportation of supplies.
  - Management and engineering actions to sustain and improve service delivery, correct deviations from cost and performance standards, and improve quality. These actions include modifications to hardware and software to solve latent or discovered technical problems, process changes to improve performance, planned block upgrades and product improvements, and sustainment actions that lower operating costs. It involves the management of personnel, information systems, money, logistics support, spare parts, technical resources, and other assigned assets. Management techniques include fiscal and workforce planning, contract award and administration, fiscal and program control, and process management to achieve cost, performance, and benefit objectives. All modifications to fielded assets must be in accordance with the enterprise architecture. If a planned modification requires a change to the architecture, appropriate amendments and products must be developed and approved.
  - Management and control of the configuration of all services and service components. This includes submission of NAS change proposals to the appropriate approval board to baseline, install, and manage changes to NAS systems, software, and equipment. It requires coordination with the appropriate systems engineering organization to ensure changes are compatible with and reflected in the enterprise

architecture.

- Sustainment of utilities, buildings, grounds, structures, roads, telecommunications, handling of hazardous materials, lightning protection, bonding, grounding, heating, cooling, and special access.
- Participation in cross-organizational planning to review, integrate, and prioritize the allocation of operational resources to fielded services and assets. The objective is to continue support for high-ranking service needs and reduce or terminate support for low-value or redundant assets. Recommendations are presented to the Joint Resources Council for approval.
- Acquisition and management of FAA-owned and leased properties, as well as management of non-federal facilities with external sponsors. This activity may involve the purchase or lease of buildings, structures, and grounds, as well as removal and disposal of no longer used equipment, systems, services, products, facilities, real property, and resources.

- **Monitor and Report Performance.** Post implementation review(s) at early deployment sites help determine whether performance and benefits are being achieved. When projections are not being realized, corrective action is planned and implemented. Periodic operational evaluations of fielded assets continue throughout in-service management to identify performance shortfalls, determine trends in the cost of ownership, identify adverse support trends, and solve systemic operational or support problems.
- **Evaluate Performance and Customer Expectations.** Operational evaluations are the basis for revalidating the merit of sustaining investment assets or the need for other action. Findings are fed back into service analysis, where it is determined whether to continue to sustain existing assets or recommend new investments to solve systemic problems in the service environment.
- **Solution Meeting Service Needs?** If the solution is meeting service needs and no supportability issues have emerged, the operational workforce continues to operate and sustain the solution, as well as monitor and evaluate it periodically. If supportability issues are emerging or the solution is projected to be unable to satisfy the service need, corrective action is initiated once it is verified the service is supported by the NAS ConOps during timeframe in question.
- **Is the Service Needed?** The operating service organization determines whether the service provided by the solution is still needed. In making this determination, the service organization reviews the NAS ConOps and enterprise architecture roadmaps to confirm the service will continue to be required in the timeframe any upgrade to the operational asset would cover.
- **End Service Life and Dispose of Unneeded Assets.** When an operational asset is replaced by new capability, the program office installing the new capability removes and disposes of replaced assets. When there is no replacement asset, the operating service organization removes and disposes of unneeded assets. Removal and disposal includes decommissioning, dismantling, and demolishing of systems and equipment; restoring sites including environmental cleanup and disposal of hazardous materials; disposing of government property; recovering precious metals; and reusing surplus assets.
- **Analyze Upgrade Options.** When the service is still needed, the service organization investigates ways to upgrade at-risk assets within existing operating budgets and determines whether additional investment funds are needed.
- **Affordable Within Existing Budgets?** When the operational asset can be modernized within existing budgets (e.g., a planned and funded product improvement, operational

funds), the upgrade is obtained, validated, and deployed. When new funds outside the scope of available resources are needed, the service shortfall enters service analysis to begin the search for a solution.

- **Obtain, Validate, and Deploy Solution Upgrade.** Any modification to fielded assets (e.g., block upgrade, planned product improvement, problem correction) must be accompanied by concomitant changes to key elements of the support infrastructure such as training, documentation, spare parts, and engineering support. This includes training for personnel who directly operate, maintain, or provide support functions. All key work products and products of in-service management, including NAS change proposals (includes actual changes/improvements to products and product components) and system support directives are verified and validated before an upgrade enters operational service. This includes the modified content of key work products and products that originate in other phases of the lifecycle, but are intended for use during in-service management. Verification and validation activity supports decisions to implement and deploy procedural or product improvements.

2.7.2 Outputs and Products **Revised 4/2013**

- Delivery of FAA enterprise services;
- Post implementation reviews and corrective action as needed to achieve investment performance and benefits;
- Periodic operational analysis of fielded assets including the effectiveness and efficiency of supply chain management;
- Periodic revalidation of the need to sustain fielded assets;
- Enforcement actions, baseline changes, and investment recommendations to maintain or improve service delivery;
- Change proposals to install systems, software, and equipment and to improve capability, safety, or efficiency in accordance with the enterprise architecture;
- Program technical reports and hardware discrepancy reports to correct hardware and software problems;
- Annual OMB Major IT Business Case submissions (designated programs only);
- Emergency sustainment actions to sustain high-priority capabilities and services;
- Up-to-date configuration records for fielded equipment;
- Annual report on critical operational needs;
- Periodic assessment of facility security enhancements;
- Action plans to remedy cost and performance shortfalls;
- Updated in-service management planning documents if needed; and
- Flight inspections, aircraft certification, and regulatory actions.

2.7.3 Who Does It? **Revised 1/2015**

Organization	**Responsibilities**
Service organization or program office	- Provides and sustains services - Manages resources to sustain fielded assets - Manages preplanned product improvements - Updates OMB Major IT Business Cases for the annual budget cycle

	(designated programs only); - Reviews in-service management planning and updates as needed - Manages the configuration of fielded assets consistent with FAA policy and the enterprise architecture - Develops infrastructure for modifications to fielded assets, including training, documentation, spare parts, and repair - Periodically assesses customer satisfaction as the foundation for improving service delivery - Monitors quality, assesses performance, tracks cost, and identifies adverse support trends for fielded assets - Periodically revalidates the need to sustain fielded assets or recommends other action such as upgrade, replacement, or decommissioning and removal - Assesses the impact on sustainment of fielded assets resulting from delays in fielding a new capability - Sustains the physical infrastructure
Office of Information & Technology, Strategy & Performance Service, Investment Portfolio & CPIC Branch	- Reviews and scores OMB Major IT Business Cases as part of the annual budget cycle (designated programs only)
PIR Quality Officer	- Oversees the quality, planning, conduct, and reporting of post implementation reviews
Integrated Logistics Management Team	- Assesses the effectiveness of supply chain management and the support concept - Recommends changes to logistics management to optimize service delivery at best value
ATO Technical Operations	- Keeps operational assets in good working condition - Conducts operational analyses periodically and feeds results into service analysis
William H. Hughes Technical Center	- Designs, develops, tests, and fields changes to operational assets that correct recurrent trouble reports and other operational issues - Provides second-level engineering
Mike Monroney Aeronautical Center	- Provides supply chain management, depot support, logistics services, and training for operational assets - Provides second-level engineering services
Capture team	- Integrates investment increments necessary to obtain an operational capability - Assists in the planning and verification that an operational capability is achieving the benefits specified in the operational capability business case

2.7.4 Who Approves? Added 4/2013

Artifact	Approval Authority
OMB Major IT Business Cases (designated information technology capital investments	Chief Information Officer, Chief Financial Officer, Acquisition Executive
OMB Major IT Business Cases (designated non-information technology capital investments	Acquisition Executive, Chief Financial Officer
In-service management planning documents	Vice President (ATO) or Director (non-ATO) of the operating service organization